UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/909,534	07/20/2001	John M. Baron	10005753-1	1977

22879	7590	01/11/2005	

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EXAMINER
COUSO, YON JUNG

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/909,534	BARON, JOHN M.
	Examiner	Art Unit	
	Yon Couso	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>7/22/04</u>.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-20</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some * c)☐ None of:
   1.☐ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

1.   Applicant's arguments filed July 22, 2004 have been fully considered but they are

not persuasive.

        a. The applicant argues that the Tretter does not teach or suggest "identifying at

least one vertical or horizontal objects within the image using only a plurality of image

pixels". The applicant states that the Tretter uses both background pixels and image

pixels to determine the first and last pixels of each scan line, but does not use only

image pixels as recited by applicant's claim 1 as amended. The examiner disagrees. It

is noted that there is no distinction between background pixel and image pixel in the

claim. The "background pixel and image pixel" in the Tretter reference reads on the

"plurality of image pixels" in the claim 1. The applicant seemed to give the plurality of

image pixel in the claim a specific meaning without further defining the meaning.

Applicant is reminded of 37 CFR 1.111(b) which states that, a "general allegation that

the claims define a patentable invention without specifically pointing out how the

language of the claims patentably distinguishes them from the references does not

comply with the requirement of this section". The image pixel does not necessarily gives

the meaning of non-background image, unless otherwise specifically stated. The

examiner does not believe that this distinction is taught or disclosed in the applicant's

specification either.

        b. The applicant argues that Zimmermann fails to disclose, teach, or suggest " a

tilt determining mechanism configured to autonomously sense orientation errors of

received images". The examiner notes that the newly added limitations, autonomously,

in "a tilt determining mechanism configured to autonomously sense orientation errors of

received image" to claims 9 and 16 do not have support in the original specification. Zimmermann teaches a tilt determining mechanism configured to sense orientation errors of received images (column 3, lines 36-38 and column 4, line 48-51).

c. The applicant argues that the Zimmermann teaches away from incorporating Sharp's tilt sensor because Zimmermann is directed to manual inputs. The examiner disagrees. Even though Zimmermann discloses tilt determining mechanism, Zimmermann does not teach details on a tilt sensor. Sharp teaches a tilt sensor which can be used in digital camera or cam coder. Zimmermann and Sharp are combinable because they are both from the area of digital camera and cam coder. It would have been obvious to one of ordinary skills in the art to incorporate tilt sensor taught in Sharp into the Zimmermann's tilt determining mechanism because Zimmermann already teaches tilt determining and correcting mechanism more or less manually. Incorporation of tilt sensor into the digital camera taught in Zimmermann would increase the efficiency and reliability. Given the obvious benefits, it would have been obvious to one of ordinary skills in the art, at the time the invention was made, to incorporate a tilt sensor taught in Sharp into the Zimmermann's tilt determining mechanism.

d. The applicant also argues that it is not proper to combine the Tretter reference and the Sharp reference. The examiner disagrees. Even though Tretter does not teach details on camera, Tretter discloses processing photographed images. Sharp teaches a tilt sensor which can be used in digital camera or cam coder. Sharp also teaches automatic detection of orientation errors includes operating a tilt angle sensor to determine a tilt parameter value (page 1). It would have been obvious to one of ordinary

skills in the art to incorporate tilt sensor taught in the Sharp refernce into the Tretter's

skew angle correction mechanism because automatic detection of orientation errors is

old and well-known technique in the image orientation correction art. Moreover, Tretter

and Sharp are combinable because they are both directed to correcting the tilt in the

image. Regardless of whether image is obtained by conventional optical camera or

digital camera, both still require all the orientation distortion, including tilt and rotation

correction.

2.   Claims 9-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject matter,

which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention. The newly added limitations, <u>autonomously</u>, in

"a tilt determining mechanism configured to <u>autonomously</u> sense orientation errors of

received image" to claims 9 and 16 do not have support in the original specification.

        Claims 10-15 and 17-20 variously depend from claims 9 and 16.

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

        Claims 1, 3, 4, 6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated

by Tretter.

As per claim 1, Tretter teaches a method for automatic detection and correction of image orientation errors comprising the steps of: receiving a digital representation of an image (150 and 125 in figure 3); identifying at least one vertical or horizontal objects within said image using only a plurality of image pixels (angle shown in figure 5); determining an orientation error of at least one of said identified vertical or horizontal objects (column 8, lines 12-20); rotating said digital representation of said identified image in a manner to reduce said orientation error; and displaying a corrected digital image (121 in figure 2).

As per claim 3, Tretter teaches checking a disable feature to ensure said automatic detection and correction of orientation errors should be performed (column 7, lines 32-57).

As per claim 4, Tretter teaches disabling said automatic correction of orientation errors for orientation errors in excess of a predetermined maximum amount (multiple skew angle at column 7, lines 32-57).

As per claim 6, Tretter teaches that the automatic detection of orientation errors is performed from identified edges of objects contained within the digital representation of an image (figure 5 and column 6, lines 5-14).

As per claim 8, Tretter teaches that the both horizontal and vertical objects are used in said automatic detection of orientation errors (horizontal and vertical edges of the document in figure 5).

4.   Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Zimmermann.

As per claim 9, Zimmermann teaches an image orientation correction system

comprising: a user-selectable input device (12 and 13 in figure 1 and column 3, lines 39-

43); a tilt determining mechanism configured to sense orientation errors of received

images(column 3, lines 36-38 and column 4, line 48-51); a processor configured to

respond to said user-selectable input device and to send said orientation errors of an

image for modifying said image to remove said orientation errors (column 4, lines 53-

59); and; a display configured to display a digital image as modified by said processor

(11 in figure 1).

As per claim 10, Zimmermann teaches that the user-selectable input allows a

user to disable said orientation correction system (12 and 13 in figure 1 and column 3,

lines 39-43).

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 11, 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Zimmermann in view of Sharp "GP1S36 Tilt Detecting Photointerrupter" (herein

called 'Sharp').

As per claim 11, Zimmermann discloses tilt determining mechanism. However,

Zimmermann does not teach details on a tilt sensor. Sharp teaches a tilt sensor which

can be used in digital camera or camcoder. It would have been obvious to one of

ordinary skills in the art to incorporate tilt sensor taught in Sharp into the Zimmermann's

tilt determining mechanism because Zimmermann already teaches tilt determining and correcting mechanism more or less manually. Incorporation of tilt sensor into the digital camera taught in Zimmermann would increase the efficiency and reliability. Given the obvious benefits, it would have been obvious to one of ordinary skills in the art, at the time the invention was made, to incorporate a tilt sensor taught in Sharp into the Zimmermann's tilt determining mechanism.

As per claim 12, Zimmermann teaches the tilt determining mechanism is implemented via software (column 5, line 20-column 8, line 13).

As per claim 13, Tretter teaches that the software implemented tilt determining mechanism detects and uses an edge of an object contained within said digital representation of said image to determine said orientation errors of said digital image (figure 5 and column 6, lines 5-14).

As per claim 14, Tretter teaches an automatic disable feature which disables said orientation correction when said orientation error is determined to be greater than a predetermined maximum error value (multiple skew angle at column 7, lines 32-57).

As per claim 15, Tretter does not set the predetermined maximum error value to be five degrees. However, as can be seen in the specification page 6, lines 21-22, there is nothing critical about the angle specified. Merely setting a threshold value to a five degree does not deemed to be patentably significant.

6.   Claims 2, 5, 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tretter in view of Zimmermann.

As per claims 2 and 16, Tretter teaches a scanner comprising: an image sensor (125 in figure 3); a display connected to display an image captured by said image sensor (121 in figure 2); an orientation sensor identifying an orientation of said image sensor with respect to said image captured by said image sensor (202 in figure 3); and an image processor responsive to said orientation sensor for performing a rotation operation on said image captured by said image sensor so as to provide corrected image data reducing a misalignment of said image (column 8, lines 12-20). Even though Tretter does not teach details on camera, Tretter discloses processing photographed images. Zimmermann teaches performing a rotation operation on said image captured by said image sensor in the digital camera so as to provide corrected image data reducing a misalignment of said image (column 8, lines 14-20). It would have been obvious to one of ordinary skill in the art to incorporate old and well-known image orientation correction technique into image captured by a digital camera because regardless of whether image is obtained by conventional optical camera or digital camera, both still require all the orientation distortion, including tilt and rotation.

As per claim 17, Tretter teaches a memory configured to store said corrected image data (104 in figure 2).

As per claims 5, 18, and 19, even though Tretter and Zimmermann does not teach details on lossy compression algorithm, compression is divided into two categories, lossy or lossless. Most of all image compression is performed based on one of lossy compression algorithm and most of all image data are compressed before storage or transmission. It would have been obvious to one of ordinary skill in the art to

incorporate compression algorithm into digital image processing technique.

As per claim 20, Tretter teaches that the image captured by said image sensor

is stored in said memory when said identified orientation is greater than a

predetermined maximum value (multiple skew angle at column 7, lines 32-57).

7.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tretter in

view of Sharp "GP1S36 Tilt Detecting Photointerrupter" (herein called 'Sharp').

As per claim 7, Sharp teaches that the automatic detection of orientation errors

includes operating a tilt angle sensor to determine a tilt parameter value (page 1). Even

though Tretter does not teach details on camera, Tretter discloses processing

photographed images. Sharp teaches a tilt sensor which can be used in digital camera

or cam coder. Sharp also teaches automatic detection of orientation errors includes

operating a tilt angle sensor to determine a tilt parameter value (page 1). It would have

been obvious to one of ordinary skills in the art to incorporate tilt sensor taught in the

Sharp refernce into the Tretter's skew angle correction mechanism because automatic

detection of orientation errors is old and well-known technique in the image orientation

correction art. Moreover, Tretter and Sharp are combinable because they are both

directed to correcting the tilt in the image. Regardless of whether image is obtained by

conventional optical camera or digital camera, both still require all the orientation

distortion, including tilt and rotation correction.

8.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.
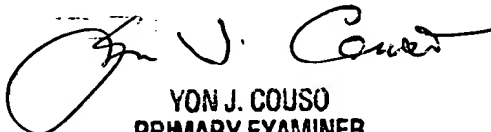
9.   9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Yon Couso whose telephone number is (703) 305-4779.

The examiner can normally be reached on Monday through Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bhavesh Mehta, can be reached on (703) 308-5246. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

YJC

YON J. COUSO
PRIMARY EXAMINER

January 6, 2005